



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,903	10/21/2003	Mitsuo Yasushi	040894-5969	3921
55694 7590 08/22/2007 DRINKER BIDDLE & REATH (DC) 1500 K STREET, N.W. SUITE 1100 WASHINGTON, DC 20005-1209			EXAMINER ADAMS, CHARLES D	
			ART UNIT 2164	PAPER NUMBER
			MAIL DATE 08/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,903	YASUSHI ET AL.	
	Examiner	Art Unit	
	Charles D. Adams	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2164

DETAILED ACTION

Remarks

1. In response to communications filed on 29 May 2007, claims 1, 2, 7, and 8 are amended and claims 9-11 are added per applicant's request. Claims 1-11 are pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 7-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US Patent 7,072,846) in view of Jacobi et al. (US Pre-Grant Publication 2006/0195362).

As to claim 1, Robinson teaches:

Comparing a musical characteristic of representative music (see 9:26-42 and 9:58-64. Artist and title data are both 'musical characteristics'), which the user has set and serves as a basis for the search, with a plurality of musical characteristics of a plurality of pieces of music, which are search targets (see Robinson 9:31-38 and 9:58-64);

Art Unit: 2164

Calculating a plurality of degrees of similarity to the representative music for the respective plurality of pieces of music which are search targets based on the comparing (see 9:35-38. As there are 'closest matches', matches are determined with different degrees of closeness. This is 'calculating a plurality of degrees of similarity'. Also see 9:58-64 for another method)

Robinson does not teach selecting a plurality of pieces of music in descending order of the degree of similarity

Jacobi et al. teaches selecting a plurality of pieces of music in descending order of the degree of similarity (see Jacobi et al. paragraphs [0063] and [0072]); and

Robinson as modified teaches sorting the pieces of selected music based on stimulation coefficients calculated by dividing the similarities of the pieces of selected music by the played frequencies of the pieces of selected music (As Robinson teaches using played frequencies as a variable to determine popularity, in 12:38-42 and 12:46-67, and Jacobi et al. teaches dividing a degree of similarity between two items by a variable indicating popularity (number of times purchased, paragraphs [0082]-[0084]), it would have been obvious to one of ordinary skill in the art to simply use "number of times played" in lieu of "number of times purchased", as both are variables quantify popularity. Jacobi et al. teaches sorting the result of these calculations in paragraph [0086]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Jacobi et al., since Jacobi et al. teaches that "an important benefit of the service

Art Unit: 2164

is that the recommendations are generated without the need for the user, or any other users, to rate items” (see paragraph [0011]).

As to claim 2, Robinson as modified teaches referencing played frequencies, which are associated the selected pieces of music, respectively (see Robinson 11:33-46); and

Sorting, on the basis of the played frequencies, the selected pieces of music in ascending order or descending order (see Robinson 11:33-46).

As to claim 7, Robinson teaches:

a representative music setting unit configured to set representative music serving as a basis for the search (see Robinson 9:31-38 and 9:58-64);

a comparing unit configured to compare a musical characteristic of the representative music and a plurality of musical characteristics of a plurality pieces of music, which are search targets (see Robinson 9:31-38 and 9:58-64);

a calculating unit configured to calculate a plurality of degrees of similarity to the representative music for the respective plurality of pieces of music which are search targets based on the comparing (see 9:35-38. As there are ‘closest matches’, matches are determined with different degrees of closeness. This is ‘calculating a plurality of degrees of similarity’. Also see 9:58-64 for another method);

Art Unit: 2164

Robinson does not teach a similar music selecting unit configured to select a plurality of pieces of music in descending order of the degree of similarity;

Jacobi et al. teaches a similar music selecting unit configured to select a plurality of pieces of music in descending order of the degree of similarity (see Jacobi et al. paragraphs [0063] and [0072]);

Robinson as modified teaches:

A list generating unit configured to generate a music list in which the selected pieces of music are stored in ascending order or descending order on a basis of a stimulation coefficient of each of the selected pieces of music, the stimulation coefficients calculated by dividing the similarities of the pieces of selected music by the played frequencies of the pieces of selected music (As Robinson teaches using played frequencies as a variable to determine popularity, in 12:38-42 and 12:46-67, and Jacobi et al. teaches dividing a degree of similarity between two items by a variable indicating popularity (number of times purchased, paragraphs [0082]-[0084]), it would have been obvious to one of ordinary skill in the art to simply use "number of times played" in lieu of "number of times purchased", as both are variables that quantify popularity. Jacobi et al. teaches sorting the result of these calculations in paragraph [0086]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Jacobi et al., since Jacobi et al. teaches that "an important benefit of the service

Art Unit: 2164

is that the recommendations are generated without the need for the user, or any other users, to rate items" (see paragraph [0011]).

As to claim 8, Robinson teaches:

Comparing a musical characteristic of representative music, which the user has set and serves as a basis for the search, with a plurality of musical characteristics of a plurality of pieces of music, which are search targets (see Robinson 9:31-38 and 9:58-64);

Calculating a plurality of degrees of similarity to the representative music for the respective plurality of pieces of music which are search targets based on the comparing (see 9:35-38. As there are 'closest matches', matches are determined with different degrees of closeness. This is 'calculating a plurality of degrees of similarity'. Also see 9:58-64 for another method);

Robinson does not teach selecting a plurality of pieces of music in descending order of the degree of similarity;

Jacobi et al. teaches selecting a plurality of pieces of music in descending order of the degree of similarity (see Jacobi et al. paragraphs [0063] and [0072]);

Robinson as modified teaches:

Sorting the pieces of selected music based on stimulation coefficients calculated by dividing the similarities of the pieces of selected music by the played frequencies of the pieces of selected music (As Robinson teaches using played frequencies as a variable to determine popularity, in 12:38-42 and 12:46-67, and Jacobi et al. teaches dividing a degree of similarity between two items by

Art Unit: 2164

a variable indicating popularity (number of times purchased, paragraphs [0082]-[0084]), it would have been obvious to one of ordinary skill in the art to simply use “number of times played” in lieu of “number of times purchased”, as both are variables that quantify popularity. Jacobi et al. teaches sorting the result of these calculations in paragraph [0086]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Jacobi et al., since Jacobi et al. teaches that “an important benefit of the service is that the recommendations are generated without the need for the user, or any other users, to rate items” (see paragraph [0011]).

4. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US Patent 7,072,846) in view of Jacobi et al. (US Pre-Grant Publication 2006/0195362), and further in view of Seto et al (US Pre-Grant Publication 2002/0041692).

As to claim 3, Robinson as modified teaches the method of claim 2.

Robinson as modified does not teach updating the played frequencies each time a piece of music is played; and

Seto et al. teaches updating the played frequencies each time a piece of music is played (see paragraph [0038]); and

Robinson as modified teaches:

Sorting, on the basis of the updated played frequencies, the selected pieces of music in ascending order or descending order (see Seo et al. paragraph [0038] and Figures 2 and 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Robinson to include the teaching of Seto et al., since Seto et al. teaches that “providing a favorite piece of music to a vehicle driver during a driving operation of the vehicle driver, detects favorite information to discriminate favorite tendency of the vehicle driver with respect to the favorite piece of music, analyzes driver's favorite on the basis of the detected favorite information and storing analyzed resultant data, selects the favorite music piece on the basis of the analyzed resultant data, and provides the selected favorite music piece to the vehicle driver” (see paragraph [0010]) “.

As to claim 5, Robinson as modified teaches the method of claim 2.

Robinson as modified does not teach sorting, on the basis of environment in which the pieces of music are played, the selected pieces of music in ascending order or descending order.

Seto et al. teaches sorting, on the basis of environment in which the pieces of music are played, the selected pieces of music in ascending order or descending order (see Figure 3, “Location” column).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Seto et al., since Seto et al. teaches “providing a favorite piece of music to a

Art Unit: 2164

vehicle driver during a driving operation of the vehicle driver, detects favorite information to discriminate favorite tendency of the vehicle driver with respect to the favorite piece of music, analyzes driver's favorite on the basis of the detected favorite information and storing analyzed resultant data, selects the favorite music piece on the basis of the analyzed resultant data, and provides the selected favorite music piece to the vehicle driver" (see paragraph [0010]).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US Patent 7,072,846) in view of Jacobi et al. (US Pre-Grant Publication 2006/0195362), and further in view of Ward et al. (US Patent 6,526,411).

As to claim 4, Robinson as modified teaches the method of claim 1.

Robinson as modified does not teach updating the played frequencies each time a piece of music is skipped.

Ward teaches updating the played frequencies each time a piece of music is skipped (see 8:28-35);

Robinson as modified teaches sorting, on the basis of the updated played frequencies, the selected pieces of music in ascending order or descending order (see Ward 8:28-35).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Ward, since Ward teaches that "to provide a dynamic playlist system and method

Art Unit: 2164

for a dynamic playlist of digital items that automatically adds items to, or subtracts items from, the playlist, as the items become available” (see 1:50-53).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US Patent 7,072,846) in view of Jacobi et al. (US Pre-Grant Publication 2006/0195362), and further in view of Cluts (US Patent 5,616,876).

Robinson as modified teaches the method of claim 1.

Robinson as modified does not teach acquiring, from a multi-channel digital broadcast, the pieces of music that serve as search targets.

Cluts teaches acquiring, from a multi-channel digital broadcast, the pieces of music that serve as search targets (see 2:33-48, and 7:56-65).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Cluts, since Cluts teaches that “indeed, it is feasible that this interactive network will have sufficient bandwidth to supply hundreds of channels of programming information, thereby leading to an explosion of programming options available to subscribers” (see 1:40-44).

7. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US Patent 7,072,846) in view of Jacobi et al. (US Pre-Grant Publication 2006/0195362), and further in view of Footte et al. (US Pre-Grant Publication 2003/0205124).

Art Unit: 2164

As to claim 9, Robinson as modified teaches the music searching method according to claim 1.

Robinson as modified does not teach wherein each musical characteristic is a numerical value representing at least one of a beat cycle, a beat intensity of respective one of the plurality of pieces of music and a rate of change thereof.

Foote et al. teaches wherein each musical characteristic is a numerical value representing at least one of a beat cycle, a beat intensity of respective one of the plurality of pieces of music and a rate of change thereof (see Foote et al. paragraphs [0077] and [0109] and [0111]).

As to claim 10, Robinson as modified teaches the music searching device according to claim 7.

Robinson does not teach wherein each musical characteristic is a numerical value representing at least one of a beat cycle, a beat intensity of respective one of the plurality of pieces of music and a rate of change thereof

Foote et al. teaches wherein each musical characteristic is a numerical value representing at least one of a beat cycle, a beat intensity of respective one of the plurality of pieces of music and a rate of change thereof (see Foote et al. paragraphs [0077] and [0109] and [0111]).

As to claim 11, Robinson as modified teaches the computer readable medium storing a program according to claim 8,

Robinson as modified does not teach wherein each musical characteristic is a numerical value representing at least one of a beat cycle, a beat intensity of respective one of the plurality of pieces of music and a rate of change thereof.

Foote et al. as modified teaches wherein each musical characteristic is a numerical value representing at least one of a beat cycle, a beat intensity of respective one of the plurality of pieces of music and a rate of change thereof (see Foote et al. paragraphs [0077] and [0109] and [0111]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Robinson by the teaching of Foote et al., since Foote et al. teaches “this allows users to search their music collections by rhythmic similarity” (paragraph [0109]) and “the present invention can be used in a wide variety of applications, including retrieving similar works from a collection of works, ranking works by rhythm and temp similarity, and sequencing musical works by similarity” (see paragraph [0016]).

Response to Arguments

8. Applicant's arguments filed 29 May 2007 have been fully considered but they are not persuasive.

Applicant argues that Robinson and Jacobi do not teach the newly added subject matter of the independent claims. However, Examiner notes that Robinson and Jacobi do teach the claim amendments, as described above. “A musical characteristic” is nothing more than an attribute of a work of music. As

Art Unit: 2164

Robsinon teaches calculating similarities based on favorite artists or recordings, both of which are characteristics of a work of music, Robinson and Jacobi fully teach the independent claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2164

Charles Adams
AU2164

Cy

Camryn
primary Examiner
Cam Q. Tuong